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TdD

Temes de Disseny

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La representació del coneixement a Internet

La representación del conocimiento en Internet

Knowledge representation on the Internet

LLUÍS CODINA I MAGDA POLO (EDS.)

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en castellano

Complete version
in English

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culados a otros materiales con los que expresan su acuerdo o su desacuerdo.

En el mundo editorial actual, solamente se publica material que corresponda a las visiones o creencias de aquellas personas con un cierto poder sobre los medios, lo cual no responde, sin duda alguna, a un ideal democrático.

Sin fronteras

No existen límites ni fronteras en Xanadu. Un documento puede ser de cualquier tamaño y extenderse por un sinfín de lugares, del mismo modo que cualquiera puede publicar enlaces al documento. Tampoco existen fronteras entre las categorías en Xanadu, pues no debemos restringirnos al modo en el que otra persona concibe el mundo.

Controversia

La controversia y las discusiones libres y abiertas no se encuentran suficientemente representadas en los sistemas existentes y nuestro propósito es cambiar este aspecto.

El punto de vista de las minorías

Muchos puntos de vista no pueden ser expresados abiertamente en el mundo actual, y nuestro propósito es cambiar esta situación.

Educación guiada por uno mismo

El sistema educativo actual está profundamente influenciado por categorías y divisiones temáticas artificiales, y por métodos de enseñanza que les restan interés. Puesto que Xanadu permitirá a todo el mundo explorar cualquier tema a su propia manera, lo vemos como un medio para la educación libre.

«Sencillamente conectar y en marcha»

El lector no tiene que dominar los estilos de interacción informáticos; solamente tiene que comenzar en un documento y moverse a partir de ahí haciendo clic a través del universo.

Totalmente legal

Muchos sistemas de publicación digital han sido elaborados sin contar con los permisos legales pertinentes y están creando toda una serie de expectativas inocentes. Xanadu ha sido creado de acuerdo con la ley de propiedad intelectual.

Derechos de autor

Muchas personas del mundo de la informática opinan de un modo inocente que los derechos de autor desaparecerán. Nosotros no pensamos que esto vaya a ocurrir, por lo que el sistema Xanadu trabaja de acuerdo con la ley de propiedad intelectual; no obstante, se han logrado minimizar los problemas derivados de los derechos de autor y convertirlos en algo totalmente inocuo.

Bibliografía

Tim Berners-Lee, comunicación personal.

Nelson, T. H. *Literary Machines*. Mindful Press, 3020 Bridgeway #295, Sausalito CA 94965.

— (1994). *Publishing in the Point-and-click Universe*. Presentado en la National Convergence Conference, Sydney, Australia, abril.

— *Xanadu and World Wide Web*, sin publicar.

The Xanadu ideal: a completely different system

Ted Nelson

Project Professor. Keio University SFC Campus. Fujisawa (Japan).

Abstract
Bief presentation of the Xanadu project.

Key words
Xanadu, hypertext, hypermedia, WWW, intellectual property, transclusion, transcopyright.

Editor's notes
This issue about the World Wide Web would not be complete without a presentation of the Xanadu project and its author, Ted Nelson. It was Nelson who coined, defined and announced the terms hypertext and hypermedia between the sixties and seventies while he was elaborating his project in the United States.
In the years in which Nelson first formulated his lines of argument, computers had scarcely got beyond the Stone Age. There was nothing even remotely similar to the Macintosh or Windows graphic user interfaces; devices such as the mouse had not been invented and many computer companies did not even have keyboards, but rather piles of perforated cards that were used to enter data or instructions.
In this context, Nelson's proposals were an outstanding intellectual feat. He argued over three decades ago that the main and most valuable function of computers in the future would be to become literacy machines instead of being mere number "punchers", which is how everybody else regarded them.
Furthermore, at a time in which even local networks had not yet been established, he considered that computers throughout the world would be able to be interconnected by a global system that would allow data to be shared without putting intellectual property in jeopardy, and thus an author's task in producing texts would not be limited solely to generating new texts, but would also link the ideas of an author to those of others by means of links with pre-existent texts that would be accessible on the universal computer network.
Even though the World Wide Web was inspired by Xanadu and it is what outside observers have always believed to be the closest thing to Nelson's view, Nelson himself has stated that the World Wide Web "is what Xanadu wants to avoid being", given that that it lacks many of the properties that Xanadu itself has, i.e. a system that solves problems of intellectual property, that offers stable directions, version control and a system of links that is much richer and more powerful than what HTML and other languages that are habitually used on the World Wide Web have to offer.
Currently, the Xanadu project seems to have received a considerable boost since its source code was published in the Udanax web headquarters <www.udanax.com> (that is, Xanadu spelt backwards) and has thus recently become an open system. It is still too soon to ascertain the consequences this may lead to.
In any case, who could explain what Xanadu is and what it means better than its creator? For this issue of *Temes de Disseny*, we requested Nelson's permission to reproduce one text about Xanadu, in which he introduces us to some essential ideas regarding Xanadu in his own particular style.
We hope that the reader of this review will thus have the chance to get to know more about the project which, even though it has been accused of being a case of waporware, has been a direct inspiration to ventures such as the World Wide Web, no less, amongst others. Readers may obtain more information regarding Xanadu at the following web sites: Xanadu, <www. xanadu.net> and Udanax, <www.udanax.com>.

Why do they call us a cult?

Because we think differently from everyone else. We are striving to create a unified, universal literature, available to everyone both as readers and contributors, instantly available everywhere, with the ability to publish connections freely. That is, anyone may publish footnotes, comments, disagreements; and anyone may quote, republish, anthologize and otherwise re-use everything in the system –provided that the republication stays within the Xanadu world. All this includes automatic and innocuous royalty. This raises many questions which cannot all be answered briefly. Suffice it to say that we have many answers. A few follow.

What is Xanadu publishing?

The term «universal electronic library» has been suggested. Perhaps «universal bookstore» is more like it. World Publishing Repository(TM) is perhaps the most appropriate term.
The Xanadu system has been designed from the literary point of view, the computer point of view, the business point of view and the legal point of view.

The Xanadu publishing system will be a licensed method of on-line electronic publication provided by

vendors throughout the world. «Publication» consists of placing a digital document somewhere in the repository network. A document may include text, picutres, audio, movies and nay other form of digital information. Readers, or users, are of course at screens. Any user in the world may send for any document, or any part of a document. The publisher pays only for the storage; the user pays for delivery, including a royalty to the publisher.

The user obtains a digital copy of everything he or she sends for –to keep or discard. The user may point and click to travel among documents, obtaining only the small part needed to keep going.

Staying within the Xanadu on-line world, anyone may publish a connection to a document –a comment, illustration, disagreement, or link of any other type; and anyone may quote from a published Xanadu document, since the quotation is bought from the original publisher at the time of delivery. The publisher agrees to be legally responsible for the contents and agrees to interconnection by anyone.

Based on literature as we know it

«Literature» is a debugged system used and understood throughout the world. Documents are information packages with points of view, literature is a system of interconnected documents. Xanadu is intended to allow millions of points of view and to keep track exactly of all their interconnections.

No point of view

Other electronic media have viewpoints deeply embedded in the design of the system (such as keywords and categories). Xanadu places all the viewpoints where they belong, in the separately owned documents and keeps the overall system viewpoint-free.

Simplicity & ease, point-&-click

The system is intended for a point-and-click universe that even a child can find her or his way around in. The user points at the desired link on the screen; the user's screen machine –that is, underlying computer– automatically purchases the linked material from its publisher and brings that material to the screen. Thus anyone can go from document to document within this universe without having to learn «computer commands».

The next fragment

The user does not have to buy whole documents. Instead, she or he simply purchases the next fragment desired. These may add up to whole documents, or not.

Simple basic concepts

The basic concepts are simple but sophisticated and powerful, and can be built into structures and uses of every kind. The concepts are the document, the link and the transclusion.

- A document is an information package with a point of view.
- A link is a connection between parts of documents, or of one document. A link is owned by its publisher, but may be connected to documents owned and published by others. Links may be of many types.
- A transclusion is a part of a document (call it A) that happens to be stored as part of another document (call it B), and is brought from that other place in B whenever A is sent for.

Inside-out from today's electronic media

Xanadu is different from, or opposite to, almost everything that is happening in the field of electronic media, including:

- Not like CD-ROM. CD-ROM is not electronic publishing. It is publishing plastic. It has boundaries. No one may interconnect to a document published in CD-ROM.
- Not like CLOSED MEDIA UNITS (such as ACROBAT(TM)). Many standards exist for closed media which no one may connect data to. These include: CD-ROM (already mentioned). The new Adobe Acrobat, for instance, mimics paper and is a closed application. So are PostScript(TM), SGML,

HyperCard(TM), and scripting languages offered by Kaleida, General Magic, etc.
- Not like text search. Searching text for particular words is a useful tool. However, it only works when the authors of the document use the same terms you expect. For the World Publishing Repository, we rely much more on links that allow instantaneous travel between documents.
- Not like on-line conferences, discussion groups, forums, newsgroups (Boundaries, Topics). On-line conferences are very popular these days, but the problem is that the conversation among the many participants sprawls in all directions. The usual solution is to have a closed boundary around the original «topic» of the discussion, sternly administered by an editor or manager (or, in the case of Prodigy (TM), by a comprehensive system of automatic censorship). We find this unacceptable. In Xanadu conferences, because of the unique connection system, the same materials may be simultaneously in many different discussions managed by different people and with different boundaries reflecting different points of view.

Open use-all connect & re-use

Anyone may publish links to any document already on Xanadu. Likewise anyone may re-use material already on Xanadu as boilerplate, as long as that material is re-used by transclusion rather than by copying. This assures that every new use will be bought from the original publisher.

Universal

This is a medium for publishing in all areas. Indeed, since we do not see boundaries between different areas, we see all publishing methods that restrict themselves to given areas as hobbled.

Populist

Because it will be equally available to everyone at low cost, and open to all points of view, we believe Xanadu is a populist medium.

Generalist

There are no sharp lines between subjects, and Generalists are those people who pursue their interests without regard to artificial boundary lines. There are more and more brilliant generalists throughout the world, but the existing publication media subdivide the world of ideas and information artificially. Xanadu does not.

Pluralist

Many different points of view, including unpopular and eccentric ones, may be freely published in Xanadu, linked to the materials they agree and disagree with.

In today's publishing world, only those viewpoints held by those with mondy, or other access to media, may be published. This is not the democratic ideal.

No boundaries

There are no boundaries in Xanadu. A document may be of any size, spread across many disks in many places. Anyone may publish connections to the document.
There are no boundaries to categories in Xanadu; you are not restricted to the way that someone else sees the world.

Controversy

Open controversy and argument are not well represented by existing systems. We intend to change that.

Minority points of view

Many points of view cannot be publicly expressed in today's world. We intend to change that.

Self-guided education

Today's systems of education are deeply hampered by artificial categories and divisions among subjects,

and by forms of teaching that make them uninteresting. Since Xanadu will allow anyone to explore any subject in his or her own style, we see it as a medium for true education.

"Just connect and keep going"

The reader need not master computerish styles of interaction; she or he need only start and one document and click across the universe from there.

Thought-out legally

Many digital publishing systems have been built without understanding of the legal system and are building a field of naive expectations. Xanadu has been built with firm understanding of copyright and liability law.

Copyright innocuous

Many computer people naively think that copyright will go away. We assume that it will not, and that the Xanadu system must work in a world of copyright law; but we are able to make copyright and royalty innocuous and smooth.

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— *Xanadu and World Wide Web*, unpublished.

El disseny de la navegació en hipertextos informatius

Lluís Codina

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Resum

Discussió dels elements i components d'un sistema de navegació en un hipertext. S'exposen les bases lògiques dels enllaços i de la navegació hipertextual, s'argumenta quina és l'arquitectura bàsica d'un sistema d'informació hipertextual i s'advoca a favor d'un model determinat per a hipertextos amb propòsits informatius.

Paraules clau

Hipertextos, navegació, enllaços, sumaris, índexs, arquitectura de la informació.

Introducció

Publicar en l'era digital i, més concretament, publicar a la WWW vol dir, entre altres coses, dissenyar i construir hipertextos. En aquest treball presentarem la proposta d'un sistema de navegació hipertextual que intenta de facilitar l'accés a la informació i, alhora, d'evitar la sensació de pèrdua (o desbordament cognitiu, en termes més tècnics) tan habitual en algunes produccions digitals interactives.

En aquest sentit, des de Nelson (1981) sempre hi ha hagut un gran consens, tant entre els teòrics com entre els dissenyadors, que la principal característica dels hipertextos és que consisteixen en documents digitals que proporcionen la possibilitat d'accedir de manera no lineal a la informació que contenen. Ara bé, més enllà d'aquesta afirmació comencen les divergències, tant en el discurs teòric com en la praxi del disseny.

Per tant, no pretenem formular una proposta amb ambicions d'universalitat. Ben al contrari, pensem que el sistema de navegació que presentem en aquest treball pot ser d'utilitat només en el context següent:

- S'ha de tractar de publicacions digitals en línia, és a dir, accessibles i navegables a través de la WWW.
- Han de ser també publicacions creades amb propòsits declaradament informatius (no entrem en propòsits no declarats, com persuadir, motivar i, fins i tot, confondre o mentir).

És evident que el territori delimitat per aquests dos condicionants és molt ampli, però deixa fora un territori no més extens, a saber, les produccions digitals amb propòsits diferents a l'informatiu, per exemple, propòsits narratius, publicitaris, poètics, mobilitzadors, etc. També deixa fora expressament les publicacions digitals dissenyades per a suports òptics, com el CD-ROM o el DVD, malgrat que no hi ha dubte que moltes de les coses que es discutiran aquí se'ls podria aplicar.

Així doncs, què entenem per una publicació digital o per un hipertext en línia amb propòsits informatius? Aquesta categoria inclou des de revistes en línia com Feed <www.feed.com> o Newsweek <www.newsweek.com> fins a llocs web de museus com ArtMuseum <www.artmuseu.net>, passant per projectes com el Centro Virtual Cervantes <www.cvc.org>, del qual es parla també en un altre apartat d'aquest monogràfic, o el projecte de diploma telemàtic i de comunitat virtual Documentación digital <www.docdigital.upf.es> del qual és codirector l'autor d'aquest article.

Els trets comuns d'aquesta mena de produccions són, a parer nostre, els següents:

- Posen a disposició del públic, és a dir, de l'internauta, una àmplia quantitat d'informació.
- Aquesta informació pot ser molt heterogènia, tant temàticament com morfològicament.
- Proporcionen diverses maneres d'accedir a la informació.
- El seu propòsit fonamental, com ja hem dit, és transmetre una informació o algun element de coneixement.

L'enigma dels hipertextos

La qüestió és que, fins als anys noranta, la major part de la bibliografia sobre hipertextos afirmava, implícitament o explícitament, que es caracteritzaven per permetre accessos no seqüencials a la informació. I durant dues dècades pel cap baix, entre els anys vuitanta i els noranta, resultava característic que les produccions hipertextuals no proporcionessin al lector ajudes addicionals per accedir a la informació, com ara sumaris

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